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CIA No. 372/78
27 March 1978

MEMORANDUM FOR: Mr. Edwin Myers
USDRE/EPS
Department of Defense

SUBJECT : Soviet Direct Writing Oscillographs

1. Attached is a discussion of Soviet capability in the field of direct writing oscillographs of the type covered by IL 1572(c).

2. The attachment was prepared by [redacted]
If you have further questions, he may be reached [redacted]

[redacted]

Office of Economic Research

[redacted]

ERM 78-10197

[redacted]

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Date Impossible to Determine
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ATTACHMENT

CIA No. 372/78

Soviet Direct Writing Oscillographs

The USSR produces direct writing oscillographs with capabilities exceeding the 20 KHz level of IL 1572(c). We have no information on production of such instruments in other Communist countries.

The Soviet models N115, N117, and K115 are 12 channel oscillographs using galvanometer/mirror systems to direct beams of ultraviolet light onto photosensitive film. They have rated writing speeds of 2000 m/sec and can record sinusoidal signals in the 25-30 KHz range.

The Soviet model NO23 is a 9 channel oscillograph using cathode ray tubes to generate light beams for recording on photosensitive film. It has a rated writing speed of 3000 m/sec and can record sinusoidal signals with a frequency of 50 KHz.

All of the above oscillographs are known to be in serial production. We have no information on the rate of production. However, we doubt that the demand, and therefore the quantity of production of such specialized devices is very large.

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The Soviets have also achieved much higher capabilities in the laboratory. A 1977 article in the Soviet technical literature claimed the recording of 4 MHz signals using cathode ray tubes with fiber optic faceplates. The article did not mention whether the faceplates used microchannels for light amplification, or passive fibers to reduce light scattering. We have seen no indication that recorders using such tubes are in serial production or operational use.